

## **Element Type 26: 2 Wire Loop – Different (Foreign) Central Office – (Disconnect)**

**Definition:** A 2 Wire point-to-point designed circuit that is similar in design to a 2-wire FX circuit in that it is multiplexed up to a DS1 Transport on AD4 (Z office) and DCS (A office), and transported to another office where the CLEC physically collocates.

**Objective:** Disconnect a 2 Wire Local Loop service for a CLEC customer in a different CO.

**Environment:** Disconnect UNE-Loop (see Model description for UNE-Loop description)

### **Key Drivers of Cost:**

#### **Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Loop Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

#### **Work Value Input**

- Manual Work Step Times

### **High Level Process Overview:**

**Transmission Type:** Analog ☒ Digital ☒.

**Unbundled Loop:** Yes ☒ No ☐.

#### **Examples of service used on this element type:**

Foreign Exchange (FX)  
POTS; ISDN/BRI  
1FB, 1FR; 1MB, 1MR

**Time Estimates:** Activity times are based on estimates by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

### **Detailed Work Activity Descriptions:**

#### **Technical Description:**

There may be situations where the CLEC may choose not to collocate in the same wire center serving the end user customer. This circuit, by its nature constitutes a designed circuit. If the 2-wire loop serves the end-user from a different CO or wire center, SMAS test points are modeled with unitized SMAS in the AD4 (ADTS). DS1 Inter Office Facilities (IOF) are used.

In the event that channel banks are a necessity (provided over what is considered DS0 Transport), as is the case of a 2-wire loop (analog or digital) served from a different CO or wire center than the end-user is currently served from (or physical collocation in a different wire center), a forward-looking automated D4 such as an AD4 Automated Digital Terminal System (ADTS<sup>67</sup>) should be assumed in the Z-office or wire center serving the end-user customer. An AD4 is considered a Processor Controlled Network Element (PCNE), supports multi-function channel units, and can be provisioned, monitored, tested, and inventoried from upstream ILEC legacy OSS systems. In this scenario, the SMAS points are assumed to

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<sup>67</sup> ADTS requirements and objectives can be found in Bellcore's TR-TSY-000174.

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be unitized with the associated maintenance-connectors and cabling hardwired into the AD4 seven (7) foot or eleven (actually 11'6") foot bays (see Exhibits below). Conversely, it is also assumed that in the office where the CLEC has decided to collocate (A-office), that the DS1 IOF is terminated on a DCS, and that a DS1 CFA is handed off to the collocated space from the DCS. Consequently, the crossconnect (DS1) in the DCS is assumed to be electronic (CPU time) and flows-through from upstream OSS systems (TIRKS, NSDB, OPS/INE). As a result of a designed service, the upstream OSS systems (e.g., TIRKS/FEPS) and appropriate work groups (e.g., NTEC, ) are also assumed. *Finally, in the above scenario (different CO), the multiplexed (to DS0) DS1 and associated Multiplexer (AD4) is considered to be a DS1/DS0 Transport element.*

**Disconnect:**

- Use of WFA
- Pull and analyze the order (NTEC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Travel time within the CO
- Monitor circuit for traffic busy and correct assignment
- Remove cross-connect, wire wrap to AD4 Channel Bank (ADTS)/Unitized SMAS
- Remove cross-connects on LDPF (Cosmic-Type) frame
- Close the order (NTEC)
- Close the order (SSC)

**Fallout:**

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve fallout

## **Element Type 27: 4 Wire Loop – Different (Foreign) Central Office – (Migration)**

**Definition:** A 4 Wire designed point-to-point designed circuit that is similar in design to a 4 wire voice or data circuit, in that it is multiplexed up to a DS1 Transport on AD4 (Z office) and DCS (A office), and transported to another office where the CLEC physically collocates.

**Objective:** Migrate a 4 Wire Local Loop service for a CLEC end user customer who is served from a different Central Office than the central office the end user is served from currently.

**Environment:** Installation UNE-Loop (see Model description for UNE-Loop description)

### **Key Drivers of Cost:**

#### **Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Loop Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

#### **Work Value Input**

- Manual Work Step Times

#### **High Level Process Overview:**

**Transmission Type:** Analog ☒ Digital ☐.

**Unbundled Loop:** Yes ☒ No ☐.

#### **Examples of service used on this element type:**

DDS, 4 Wire FX, HDSL, PBX Tie Trunk, VF Data, etc.

**Time Estimates:** Activity times are based on estimates provided by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

#### **Detailed Work Activity Descriptions:**

##### Technical Description:

There may be situations where the CLEC may choose not to collocate in the same wire center serving the end user customer. This circuit, by its nature constitutes a designed circuit. If the 2-wire loop serves the end-user from a different CO or wire center, SMAS test points are modeled with unitized SMAS in the AD4 (ADTS). DS1 Inter Office Facilities (IOF) are used.

In the event that channel banks are a necessity (provided over what is considered DS0 Transport), as is the case of a 2-wire loop (analog or digital) served from a different CO or wire center than the end-user is currently served from (or physical collocation in a different wire center), a forward-looking automated D4 such as an AD4 Automated Digital Terminal System (ADTS<sup>68</sup>) should be assumed in the Z-office or wire center serving the end-user customer. An AD4 is considered a Processor Controlled Network Element (PCNE), supports multi-function channel units, and can be provisioned, monitored, tested, and inventoried from upstream ILEC legacy OSS systems. In this scenario, the SMAS points are assumed to

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<sup>68</sup> ADTS requirements and objectives can be found in Bellcore's TR-TSY-000174.

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be unitized with the associated maintenance-connectors and cabling hardwired into the AD4 seven (7) foot or eleven (actually 11'6") foot bays (see Exhibits below). Conversely, it is also assumed that in the office where the CLEC has decided to collocate (A-office), that the DS1 IOF is terminated on a DCS, and that a DS1 CFA is handed off to the collocated space from the DCS. Consequently, the crossconnect (DS1) in the DCS is assumed to be electronic (CPU time) and flows-through from upstream OSS systems (TIRKS, NSDB, OPS/INE).

As a result of a designed service, the upstream OSS systems (e.g., TIRKS/FEPS) and appropriate work groups (e.g., NTEC ) are also assumed. *Finally, in the above scenario (different CO), the multiplexed (to DS0) DS1 and associated Multiplexer (AD4) is considered to be a DS1/DS0 Transport element.*

Migration:

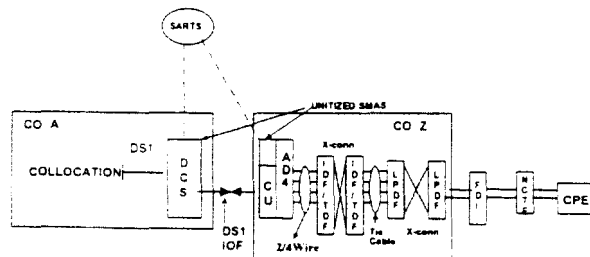
- Use of WFA
- Pull and analyze the order (NTEC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Negotiate customer release (CLEC with ILEC)
- Travel time within the CO
- Monitor circuit for traffic busy and correct assignment
- Cross-connect 4 wire, wire wrap, to AD4 Channel Bank/Unitized SMAS
- Terminate cross-connects on LDPF (Cosmic-Type) frame
- Conduct testing - 1000hz
- Close the order (NTEC)
- Close the order (SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout

*2/4 Wire Copper Loop Different CO (Combined with DS0 Transport)*



## **Element Type 28: 4 Wire Loop – Different (Foreign) Central Office – (Install)**

**Definition:** A 4 Wire designed point-to-point designed circuit that is similar in design to a 4 wire voice or data circuit, in that it is multiplexed up to a DS1 Transport on AD4 (Z office) and DCS (A office), and transported to another office where the CLEC physically collocates.

**Objective:** Install a 4 Wire Local Loop service for a CLEC customer in a different Central Office (CO) or wire center.

**Environment:** Installation UNE-Loop (see Model description for UNE-Loop description)

### **Key Drivers of Cost:**

#### **Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Loop Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

#### **Work Value Input**

- Manual Work Step Times

### **High Level Process Overview:**

**Transmission Type:** Analog ☒ Digital ☒.

**Unbundled Loop:** Yes ☒ No ☐.

#### **Examples of service used on this element type:**

DDS, 4 Wire FX, HDSL, PBX Tie Trunk, VF Data, etc.

**Time Estimates:** Activity times are based on estimates provided by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

### **Detailed Work Activity Descriptions:**

#### Technical Description:

There may be situations where the CLEC may choose not to collocate in the same wire center serving the end user customer. This circuit, by its nature constitutes a designed circuit. If the 2-wire loop serves the end-user from a different CO or wire center, SMAS test points are modeled with unitized SMAS in the AD4 (ADTS). DS1 Inter Office Facilities (IOF) are used.

In the event that channel banks are a necessity (provided over what is considered DS0 Transport), as is the case of a 2-wire loop (analog or digital) served from a different CO or wire center than the end-user is currently served from (or physical collocation in a different wire center), a forward-looking automated D4 such as an AD4 Automated Digital Terminal System (ADTS<sup>69</sup>) should be assumed in the Z-office or wire center serving the end-user customer. An AD4 is considered a Processor Controlled Network Element (PCNE), supports multi-function channel units, and can be provisioned, monitored, tested, and inventoried from upstream ILEC legacy OSS systems. In this scenario, the SMAS points are assumed to be unitized with the associated maintenance-connectors and cabling hardwired into the AD4 seven (7)

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<sup>69</sup> ADTS requirements and objectives can be found in Bellcore's TR-TSY-000174.

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foot or eleven (actually 11'6") foot bays (see Exhibits below). Conversely, it is also assumed that in the office where the CLEC has decided to collocate (A-office), that the DS1 IOF is terminated on a DCS, and that a DS1 CFA is handed off to the collocated space from the DCS. Consequently, the crossconnect (DS1) in the DCS is assumed to be electronic (CPU time) and flows-through from upstream OSS systems (TIRKS, NSDB, OPS/INE).

As a result of a designed service, the upstream OSS systems (e.g., TIRKS/FEPS) and appropriate work groups (e.g., NTEC ) are also assumed. *Finally, in the above scenario (different CO), the multiplexed (to DS0) DS1 and associated Multiplexer (AD4) is considered to be a DS1/DS0 Transport element.*

Installation:

- Use of WFA
- Pull and analyze the order (NTEC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Travel within the CO
- Cross-connect 4 wire, wire wrap, to AD4 Channel Bank/Unitized SMAS
- Terminate cross-connects on LDPF (Cosmic-Type) frame
- Conduct testing - 1000hz
- Close the order (NTEC)
- Close the order (SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout

**Element Type 29: 4 Wire Loop – Different (Foreign) Central Office – (Disconnect)**

**Definition:** A 4 Wire point-to-point designed circuit that is similar in design to a 4-wire voice or data circuit in that it is multiplexed up to a DS1 Transport on AD4 (Z office) and DCS (A office), and transported to another office where the CLEC physically collocates.

**Objective:** Disconnect a 4 Wire Local Loop service for a CLEC customer in a different CO.

**Environment:** Disconnect UNE-Loop (see Model description for UNE-Loop description)

**Key Drivers of Cost:**

**Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Loop Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

**Work Value Input**

- Manual Work Step Times

**High Level Process Overview:**

**Transmission Type:** Analog ☒ Digital ☒.

**Unbundled Loop:** Yes ☒ No ☐.

**Examples of service used on this element type:**

DDS  
VF Data  
PBX Tie Trunk  
HDSL

**Time Estimates:** Activity times are based on estimates by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

**Detailed Work Activity Descriptions:**

**Technical Description:**

There may be situations where the CLEC may choose not to collocate in the same wire center serving the end user customer. This circuit, by its nature constitutes a designed circuit. If the 2-wire loop serves the end-user from a different CO or wire center, SMAS test points are modeled with unitized SMAS in the AD4 (ADTS). DS1 Inter Office Facilities (IOF) are used.

In the event that channel banks are a necessity (provided over what is considered DS0 Transport), as is the case of a 2-wire loop (analog or digital) served from a different CO or wire center than the end-user is currently served from (or physical collocation in a different wire center), a forward-looking automated D4 such as an AD4 Automated Digital Terminal System (ADTS<sup>70</sup>) should be assumed in the Z-office or wire

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<sup>70</sup> ADTS requirements and objectives can be found in Bellcore's TR-TSY-000174.

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center serving the end-user customer. An AD4 is considered a Processor Controlled Network Element (PCNE), supports multi-function channel units, and can be provisioned, monitored, tested, and inventoried from upstream ILEC legacy OSS systems. In this scenario, the SMAS points are assumed to be unitized with the associated maintenance-connectors and cabling hardwired into the AD4 seven (7) foot or eleven (actually 11'6") foot bays (see Exhibits below). Conversely, it is also assumed that in the office where the CLEC has decided to collocate (A-office), that the DS1 IOF is terminated on a DCS, and that a DS1 CFA is handed off to the collocated space from the DCS. Consequently, the crossconnect (DS1) in the DCS is assumed to be electronic (CPU time) and flows-through from upstream OSS systems (TIRKS, NSDB, OPS/INE).

As a result of a designed service, the upstream OSS systems (e.g., TIRKS/FEPS) and appropriate work groups (e.g., NTEC, SSC) are also assumed. *Finally, in the above scenario (different CO), the multiplexed (to DS0) DS1 and associated Multiplexer (AD4) is considered to be a DS1/DS0 Transport element.*

Disconnect:

- Use of WFA
- Pull and analyze the order (NTEC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Travel within the CO
- Monitor circuit for traffic busy and correct assignment
- Remove cross-connects on LDPF (Cosmic-Type) frame, 1-4 wire
- Remove cross-connect - wire wrap to AD4 Channel Bank (ADTS)/Unitized SMAS
- Remove cross-connect (4 wire SMAS, wire wrap, to AD4 Channel Bank/Unitized SMAS)
- Close the order (NTEC)
- Close the order (SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout



### **Element Type 30: DS1 Loop to Customer Premise – (Migration)**

**Definition:** A DS1 loop is a 1.544Mbps transmission facility between a subscriber's station equipment and the central office (CO).

**Objective:** Migrate a DS1 Loop service from an ILEC to a new entrant (CLEC)

**Environment:** DS1 Loop

**Key Drivers of Cost:**

**Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Loop Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

**Work Value Input**

- Manual Work Step Times

**High Level Process Overview:**

**Transmission Type:** Analog ☐ Digital ☒

**Unbundled Loop:** Yes ☒ No ☐

**Examples of service used on this element type:**

Digital Data Services (DDS)  
POTS  
ISDN/BRI  
Special Services  
DS1 Service

**Time Estimates:** Activity times are based on estimates by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

**Detailed Work Activity Descriptions:**

Technical Description:

This DS1 section of the documentation will discuss 4-Wire Copper (TWP) and Integrated Digital Loop Carrier (IDLC) used to provide the DS1 digital loop.

#### **4-Wire Copper Digital Cross connect (DS1) for the Loop**

Migration:

- Use of WFA
- Pull and analyze the order (FMAC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Negotiate customer release
- Travel time within the CO

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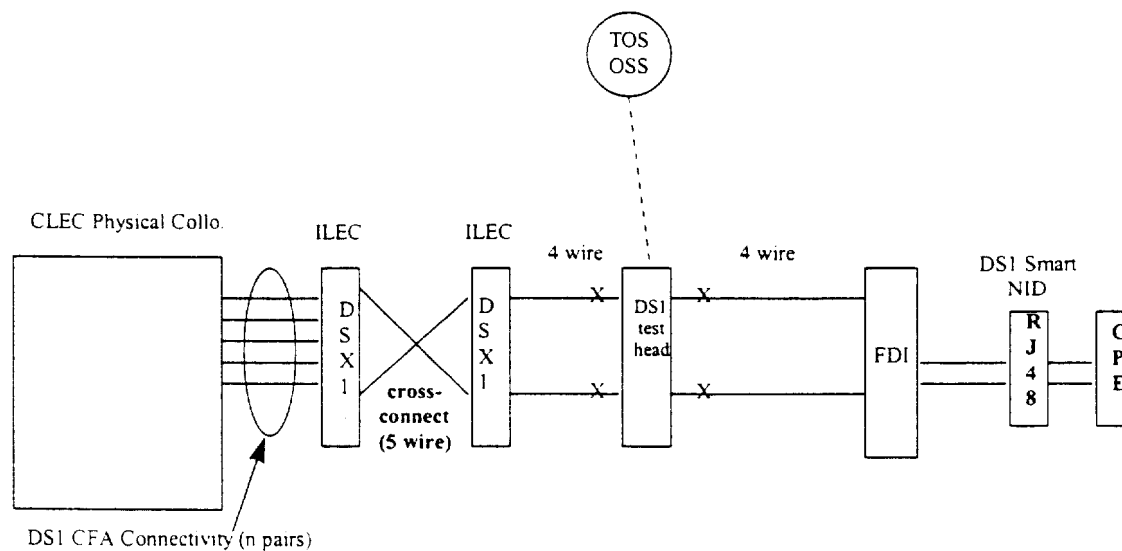
- Install 5 wire cross-connects on DSX bay
- Perform quasi random signal source - QRSS test via remote ITS-DTAU
- Conduct loop back analysis test (Copper only) - (SSC)
- Close the order (FMAC)
- Close the order (SSC)

**Fallout:**

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout

***DS1 Loop (Copper)***



**DS1 Copper Loop**

**4-Wire IDLC Digital Crossconnect (DS1) Loop**

**Migration:**

- Use of WFA
- Pull and analyze the order (NTEC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Travel time within the CO
- Install 5 wire cross-connects on DSX
- Perform quasi random signal source - QRSS test via remote ITS-DTAU
- Conduct loop back analysis test (copper only)-(SSC)
- Close the order (NTEC)
- Close the order (SSC)

**Fallout:**

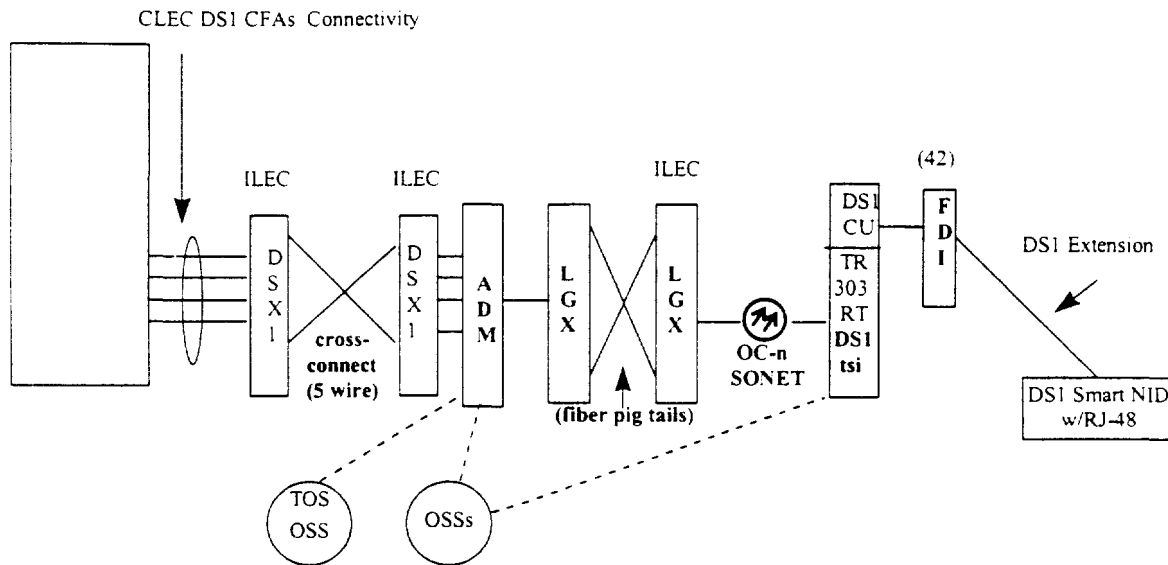
**NRCM TECHNICAL ASSUMPTIONS BINDER (NTAB)**  
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It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout

***4 Wire Loop (TR-303 IDLC)***

CLEC Physical Collo.



**DS1 Fiber (TR-303) Loop**

**Element Type 31: DS1 Loop to Customer Premise – (Install)**

**Definition:** A DS1 loop is a 1.544Mbps transmission facility between a subscriber's station equipment and the central office (CO).

**Objective:** Install a DS1 Loop service to a new entrant (CLEC)

**Environment:** DS1 Loop

**Key Drivers of Cost:**

**Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Loop Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

**Work Value Input**

- Manual Work Step Times

**High Level Process Overview:**

**Transmission Type:** Analog ☐ Digital ☒.

**Unbundled Loop:** Yes ☒ No ☐.

**Examples of service used on this element type:**

Digital Data Services (DDS)  
POTS  
ISDN/BRI  
Special Services  
DS1 Service

**Time Estimates:** Activity times are based on estimates by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

**Detailed Work Activity Descriptions:**

Technical Description:

This DS1 section of the documentation will discuss 4-Wire Copper (TWP) and Integrated Digital Loop Carrier (IDLC) used to provide the 4-wire DS1 digital loop.

**4-Wire Copper Digital Crossconnect (DS1) Loop**

Installation:

- Use of WFA
- Pull and analyze the order (FMAC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Travel time within the CO

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- Install 5 wire cross-connect on DSX
- Perform quasi random signal source - QRSS test via remote ITS-DTAU
- Conduct loop back analysis test (copper only) - (SSC)
- Close the order (FMAC)
- Close the order (SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout

**4-Wire IDLC Digital Crossconnect (DS1) Loop**

Installation:

- Use of WFA
- Pull and analyze the order (FMAC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Travel time within the CO
- Install 5 wire cross-connects on DSX
- Perform quasi random signal source - QRSS test via remote ITS-DTAU
- Conduct loop back analysis test (Copper only) - (SSC)
- Close the order (NTEC)
- Close the order (SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout

### **Element Type 32: DS1 Loop to Customer Premise – (Disconnect)**

**Definition:** A DS1 loop is a 1.544Mbps transmission facility between a subscriber's station equipment and the central office.

**Objective:** Disconnect a DS1 Loop service to a new entrant (CLEC)

**Environment:** DS1 Loop

**Key Drivers of Cost:**

**Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Loop Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

**Work Value Input**

- Manual Work Step Times

**High Level Process Overview:**

**Transmission Type:** Analog ☐ Digital ☒.

**Unbundled Loop:** Yes ☒ No ☐.

**Examples of service used on this element type:**

Digital Data Service (DDS)  
VF Data  
Special Services  
DS1 Service

**Time Estimates:** Activity times are based on estimates by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

**Detailed Work Activity Descriptions:**

Technical Description:

This DS1 section of the documentation will discuss 4-Wire Copper (TWP) and Integrated Digital Loop Carrier (IDLC) used to provide the 4-wire DS1 digital loop.

#### **4-Wire Copper Digital Crossconnect (DS1) for the Loop**

Disconnect:

- Use of WFA
- Pull and analyze the order (FMAC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Travel time within the CO

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- Monitor circuit for traffic busy and correct assignment
- Remove 5 wire cross-connects on DSX
- Close the order (FMAC)
- Close the order (SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout

**4-Wire IDLC Digital Crossconnect (DS1) for the Loop**

Migration:

- Use of WFA
- Pull and analyze the order (FMAC)
- Pull and analyze the order (SSC)
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Travel time within the CO
- Monitor circuit for traffic busy and correct assignment
- Remove 5 wire cross connect at DSX bay
- Close the order (FMAC)
- Close the order (SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a designed service. The activities include the following:

- Pull and analyze the order
- Resolve the fallout

### **Element Type 33: DS3 Loop (Migration)**

**Definition:** DS3 is a 44.736Mb/s digital transmission medium which has the virtual capacity of 28 DS1's and an equivalent 672 DS0 voice and/or data circuits.

**Objective:** Migrate a DS3 Loop (over fiber) for a CLEC customer.

**Environment:** DS3 Loop (see Model Description for install DS3 loop description)

**Key Drivers of Cost:**

**Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- CO Staffed Ratio
- Average Trip Time
- Number of Work Activities per Trip

**Work Value Input**

- Manual Work Step Times

**High Level Process Overview:**

**Transmission Type:** Analog\_\_ Digital x.

**Unbundled Loop:** Yes\_\_ No\_\_.

**Examples of service used on this element type:**

- DS3 (COAX) between a CLEC (collocated space) and an end-user (via ILEC facilities).

**Time Estimates:** Activity times are based on estimates provided by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

**Detailed Work Activity Descriptions:**

Technical Description:

The following assumptions were made for DS3 Loop:

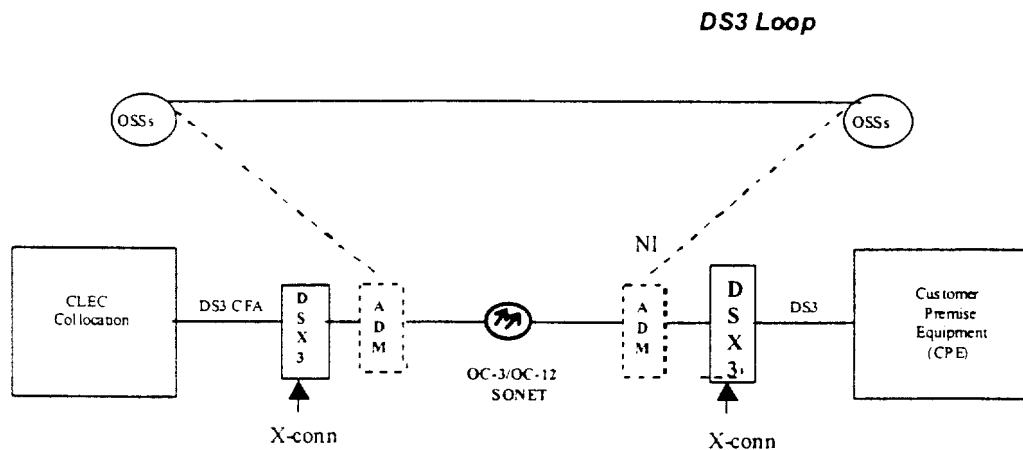
- This non-recurring cost was developed to provide the new entrant the ability to install, migrate, and purchase the capacity for DS3 Loop. The assumptions include that all DS1, DS3 Connecting Facility Assignment (CFA) terminations (also known as Expanded Interconnection Channel Terminations (CFA) are less than 655 and 450 feet, respectively. The study assumes that the SONET rings are in place (see DS1 transport for SONET diagram).
- For placement of the Plug-in or channel-units in the CO SONET mux and SONET Mux at the end-user-customer premise the costs are recovered under recurring charges. Also included in this task is the technician placing his/her wrist strap on to guard against any ESD problems.
- Technology assumes SONET fiber technology in the loop.
- SONET add-drop-multiplexor (ADM) in the CO and Customer Premise assumes that the DS3 (or STS-1) are virtual and contained within the OCn (where n = 3, 12, or 48).
- Crossconnects, Disconnects, and option settings in the SONET ADM are electronic flow-through via upstream, remote OSS systems (e.g., TIRKS, NSDB, and OPS/INE).
- The assumption of is that the DS3 loops traverse SONET fiber facilities and that DS3 electronic crossconnects are established on the SONET ADM multiplexors in both the CO and customer premise in a flow-through manner via upstream OSS Systems (e.g., TIRKS, NSDB, OPS/INE, etc.). It is also assumed that the SONET ADM is hardwired/cabled to a DSX-3 where the ILEC technician will establish a Coax crossconnect to connect to the CFA leading to the CLEC collocated space. No



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office repeater bay ("ORB")<sup>71</sup> is required, and all new-connects, disconnects, edits, and rearrangements (rolls) are transaction based and flow through automatically via upstream OSS over a standard TL1/X.25 interface in approximately 2.0 seconds (see Bellcore GR-199-CORE, Section 2, Pg. 2-5).<sup>72</sup>

- The study also assumes that the performance monitoring for Error Seconds (ES), Bit Error Rate (BER), Cyclical Redundancy Check (CRC), Unavailable Seconds (UAS), Severely Error Seconds (SES), and Automatic Protection Counts (APC) have been set (per Bellcore GR-253-CORE, a module of the TSGR)<sup>73</sup>.
- It is further assumed that DS3 was virtual over SONET Ring. It also assumed that cross connects are performed electronically, in a flow-through manner via upstream OSS systems. This cross connect will take 50 ms. CPU time with an acknowledgment response within 2 seconds each (see Bellcore GR-199-CORE, Section 2, Pg. 2-5).<sup>74</sup>
- This non-recurring charge was developed to provide the new entrant the ability to install and purchase the capacity for DS3 Loop (see figure below).



<sup>71</sup> ORBs are required when LBO exceed the pulse template for DS1 (655') or DS3 (450').

<sup>72</sup> Bellcore OTGR, FR-439, (TR-TSY-000199/GR-199-CORE; TL1 Specifications on Memory Administration).

<sup>73</sup> Bellcore GR-253-CORE; SONET Requirements and Objectives (a module of the TSGR).

<sup>74</sup> Bellcore OTGR, FR-439, (TR-TSY-000199/GR-199-CORE; TL1 Specifications on Memory Administration).

Installation:

- Use of WFA
- Pull and analyze the order (FMAC and SSC)
- Perform COAX (BNC Connectorized) Migration Crossconnect at DSX-3 panels to CFA interface.
- Perform remote PRSB15 or B3ZS test
- Retrieve and analyze PM data (NMA) test (BER, ES, etc) for 100% of the time
- Perform Intrusive test as required : R
- Close the order (FMAC and SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a DS3 designed service. The activities include the following:

- Pull and analyze the order
- Clear the jeopardy

## **Element Type 34: DS3 Loop (Install)**

**Definition:** DS3 is a 44.736Mb/s digital transmission medium which has the virtual capacity of 28 DS1's and an equivalent 672 DS0 voice and/or data circuits.

**Objective:** Install a DS3 Loop (over fiber) for a CLEC customer.

**Environment:** DS3 Loop (see Model Description for install DS3 loop description)

### **Key Drivers of Cost:**

#### **Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- CO Staffed Ratio
- Average Trip Time
- Number of Work Activities per Trip

#### **Work Value Input**

- Manual Work Step Times

### **High Level Process Overview:**

**Transmission Type:** Analog\_\_ Digital x.

**Unbundled Loop:** Yes\_\_ No \_\_.

#### **Examples of service used on this element type:**

- DS3 (COAX) between a CLEC (collocated space) and an end-user (via ILEC facilities).

**Time Estimates:** Activity times are based on estimates provided by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

### **Detailed Work Activity Descriptions:**

#### Technical Description:

The following assumptions were made for DS3 Loop:

- This non-recurring cost was developed to provide the new entrant the ability to install and purchase the capacity for DS3 Loop. The assumptions include that all DS1, DS3 Connecting Facility Assignment (CFA) terminations (also known as Expanded Interconnection Channel Terminations (CFA) are less than 655 and 450 feet, respectively. The study assumes that the SONET rings are in place (see DS1 transport for SONET diagram).
- For placement of the Plug-in or channel-units in the CO SONET mux and SONET Mux at the end-user-customer premise the costs are recovered under recurring charges. Also included in this task is the technician placing his/her wrist strap on to guard against any ESD problems.
- Technology assumes SONET fiber technology in the loop.
- SONET add-drop-multiplexor (ADM) in the CO and Customer Premise assumes that the DS3 (or STS-1) are virtual and contained within the OCn (where n = 3, 12, or 48).
- Crossconnects, Disconnects, and option settings in the SONET ADM are electronic flow-through via upstream, remote OSS systems (e.g., TIRKS, NSDB, and OPS/INE).
- The assumption of is that the DS3 loops traverse SONET fiber facilities and that DS3 electronic crossconnects are established on the SONET ADM multiplexors in both the CO and customer premise in a flow-through manner via upstream OSS Systems (e.g., TIRKS, NSDB, OPS/INE, etc.). It is also assumed that the SONET ADM is hardwired/cabled to a DSX-3 where the ILEC technician will establish a Coax crossconnect to connect to the CFA leading to the CLEC collocated space. No

**NRCM TECHNICAL ASSUMPTIONS BINDER (NTAB)**  
**WORKING DRAFT IN PROGRESS**

office repeater bay ("ORB")<sup>75</sup> is required, and all new-connects, disconnects, edits, and rearrangements (rolls) are transaction based and flow through automatically via upstream OSS over a standard TL1/X.25 interface in approximately 2.0 seconds (see Bellcore GR-199-CORE, Section 2, Pg. 2-5).<sup>76</sup>

- The study also assumes that the performance monitoring for Error Seconds (ES), Bit Error Rate (BER), Cyclical Redundancy Check (CRC), Unavailable Seconds (UAS), Severely Error Seconds (SES), and Automatic Protection Counts (APC) have been set (per Bellcore GR-253-CORE, a module of the TSGR)<sup>77</sup>.
- It is further assumed that DS3 was virtual over SONET Ring. It also assumed that cross connects are performed electronically, in a flow-through manner via upstream OSS systems. This cross connect will take 50 ms. CPU time with an acknowledgment response within 2 seconds each (see Bellcore GR-199-CORE, Section 2, Pg. 2-5).<sup>78</sup>
- This non-recurring charge was developed to provide the new entrant the ability to install and purchase the capacity for DS3 Loop (see figure below).

Installation:

- Use of WFA
- Pull and analyze the order (FMAC and SSC)
- Trip time to non-staffed CO : R
- Install plug-in equipment on high speed SONET Mux in CO and Customer Premise (Cost recovered elsewhere).
- Perform COAX (BNC Connectorized) Crossconnect at DSX-3 panels to CFA interface.
- Install plug-in equipment on 2 SONET ADM (Cost recovered elsewhere)
- OSS (OPS/INE) CPU electronic cross-connect/mapping time for 2 SONET ADM/LTE.
- Perform remote PRSB15 or B3ZS test
- Retrieve and analyze PM data (NMA) test (BER, ES, etc) for 100% of the time
- Perform Intrusive test as required : R
- Continuity verification cross-office test done via COMPL/CTAG response included in 2 acknowledgment response
- Close the order (FMAC and SSC)

Fallout:

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a DS3 designed service. The activities include the following:

- Pull and analyze the order
- Clear the jeopardy

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<sup>75</sup> ORBs are required when LBO exceed the pulse template for DS1 (655') or DS3 (450').

<sup>76</sup> Bellcore OTGR, FR-439, (TR-TSY-000199/GR-199-CORE: TL1 Specifications on Memory Administration).

<sup>77</sup> Bellcore GR-253-CORE: SONET Requirements and Objectives (a module of the TSGR).

<sup>78</sup> Bellcore OTGR, FR-439, (TR-TSY-000199/GR-199-CORE: TL1 Specifications on Memory Administration).

## **Element Type 35: DS3 Loop (Disconnect)**

**Definition:** DS3 is a 44.736Mb/s digital transmission medium which has the virtual capacity of 28 DS1's and an equivalent 672 DS0 voice and/or data circuits.

**Objective:** Install a DS3 Loop (over fiber) for a CLEC customer.

**Environment:** DS3 Loop (see Model Description for install DS3 loop description)

### **Key Drivers of Cost:**

#### **Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- CO Staffed Ratio
- Average Trip Time
- Number of Work Activities per Trip

#### **Work Value Input**

- Manual Work Step Times

### **High Level Process Overview:**

**Transmission Type:** Analog\_\_ Digital x.

**Unbundled Loop:** Yes\_\_ No \_\_.

#### **Examples of service used on this element type:**

- DS3 (COAX) between a CLEC (collocated space) and an end-user (via ILEC facilities).

**Time Estimates:** Activity times are based on estimates provided by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

### **Detailed Work Activity Descriptions:**

#### Technical Description:

The following assumptions were made for DS3 Loop:

- This non-recurring cost was developed to provide the new entrant the ability to install and purchase the capacity for DS3 Loop. The assumptions include that all DS1, DS3 Connecting Facility Assignment (CFA) terminations (also known as Expanded Interconnection Channel Terminations (CFA) are less than 655 and 450 feet, respectively. The study assumes that the SONET rings are in place (see DS1 transport for SONET diagram).
- For placement of the Plug-in or channel-units in the CO SONET mux and SONET Mux at the end-user-customer premise the costs are recovered under recurring charges. Also included in this task is the technician placing his/her wrist strap on to guard against any ESD problems.
- Technology assumes SONET fiber technology in the loop.
- SONET add-drop-multiplexor (ADM) in the CO and Customer Premise assumes that the DS3 (or STS-1) are virtual and contained within the OCn (where n = 3, 12, or 48).
- Crossconnects, Disconnects, and option settings in the SONET ADM are electronic flow-through via upstream, remote OSS systems (e.g., TIRKS, NSDB, and OPS/INE).
- The assumption of is that the DS3 loops traverse SONET fiber facilities and that DS3 electronic crossconnects are established on the SONET ADM multiplexors in both the CO and customer premise in a flow-through manner via upstream OSS Systems (e.g., TIRKS, NSDB, OPS/INE, etc.). It is also assumed that the SONET ADM is hardwired/cabled to a DSX-3 where the ILEC technician will establish a Coax crossconnect to connect to the CFA leading to the CLEC collocated space. No

**NRCM TECHNICAL ASSUMPTIONS BINDER (NTAB)**  
**WORKING DRAFT IN PROGRESS**

office repeater bay ("ORB")<sup>79</sup> is required, and all new-connects, disconnects, edits, and rearrangements (rolls) are transaction based and flow through automatically via upstream OSS over a standard TL1/X.25 interface in approximately 2.0 seconds (see Bellcore GR-199-CORE, Section 2, Pg. 2-5).<sup>80</sup>

- The study also assumes that the performance monitoring for Error Seconds (ES), Bit Error Rate (BER), Cyclical Redundancy Check (CRC), Unavailable Seconds (UAS), Severely Error Seconds (SES), and Automatic Protection Counts (APC) have been set (per Bellcore GR-253-CORE, a module of the TSGR)<sup>81</sup>.
- It is further assumed that DS3 was virtual over SONET Ring. It also assumed that cross connects are performed electronically, in a flow-through manner via upstream OSS systems. This cross connect will take 50 ms. CPU time with an acknowledgment response within 2 seconds each (see Bellcore GR-199-CORE, Section 2, Pg. 2-5).<sup>82</sup>
- This non-recurring charge was developed to provide the new entrant the ability to install and purchase the capacity for DS3 Loop (see figure below).

**Installation:**

- Use of WFA
- Pull and analyze the order (FMAC and SSC)
- Trip time to non-staffed CO : R
- Remove COAX (BNC Connectorized) Crossconnect at DSX-3 panels to CFA interface.
- OSS (OPS/INE) CPU electronic disconnect time for 2 SONET ADM/LTE.
- Verification of disconnect via COMPL/CTAG response included in 2 acknowledgment response
- Close the order (FMAC and SSC)

**Fallout:**

It is assumed that fallout of the order will occur 2% of the time to the CPC Center because it is a DS3 designed service. The activities include the following:

- Pull and analyze the order
- Clear the jeopardy

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<sup>79</sup> ORBs are required when LBO exceed the pulse template for DS1 (655') or DS3 (450').

<sup>80</sup> Bellcore OTGR, FR-439, (TR-TSY-000199/GR-199-CORE; TL1 Specifications on Memory Administration).

<sup>81</sup> Bellcore GR-253-CORE: SONET Requirements and Objectives (a module of the TSGR).

<sup>82</sup> Bellcore OTGR, FR-439, (TR-TSY-000199/GR-199-CORE; TL1 Specifications on Memory Administration).

### **Element Type 36: Line Port; DS0 - Analog LU or Digital ISLU – (Install)**

**Definition:** This 2 Wire unbundled line port provides a 2 wire twisted pair (TWP) path between the ILEC Local Digital Switch (LDS) and the CLEC Collocation space and will support POTS or ISDN/BRI services.

**Objective:** Install a Line Port from the ILEC LDS switch (5ESS) to the CLEC

**Key Drivers of Cost:**

**Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Port Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

**Work Value Input**

- Manual Work Step Times

**High Level Process Overview:**

**Transmission Type:** Analog ☒ Digital ☐.

**Unbundled Port:** Yes ☒ No ☐.

**Examples of service used on this element type:**

POTS  
ISDN/BRI

**Time Estimates:** Activity times are based on estimates provided by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

**Detailed Work Activity Descriptions:**

Technical Description:

This 2-wire unbundled line port supports 2-wired twisted pair (TWP) as its transmission media. It models a POTS line unit (LU) or ISDN/BRI line unit (ISLU). The investments for the ISLU, LU, and associated PICBs and PIDBs are recovered in the recurring costs modeled in SCIS. Recent Change line translations, and a 2-wire cross-connect at the LDPF (Cosmic-Type) - in order to connect to the CFA and physical collocation - are also modeled (see exhibit below).

Installation:

- Use of WFA
- Pull and analyze the order
- 4-Work Activities per trip
- Trip time to non-staffed CO
- Install 2-wire cross-connect from MDF to CFA appearance
- Close the order

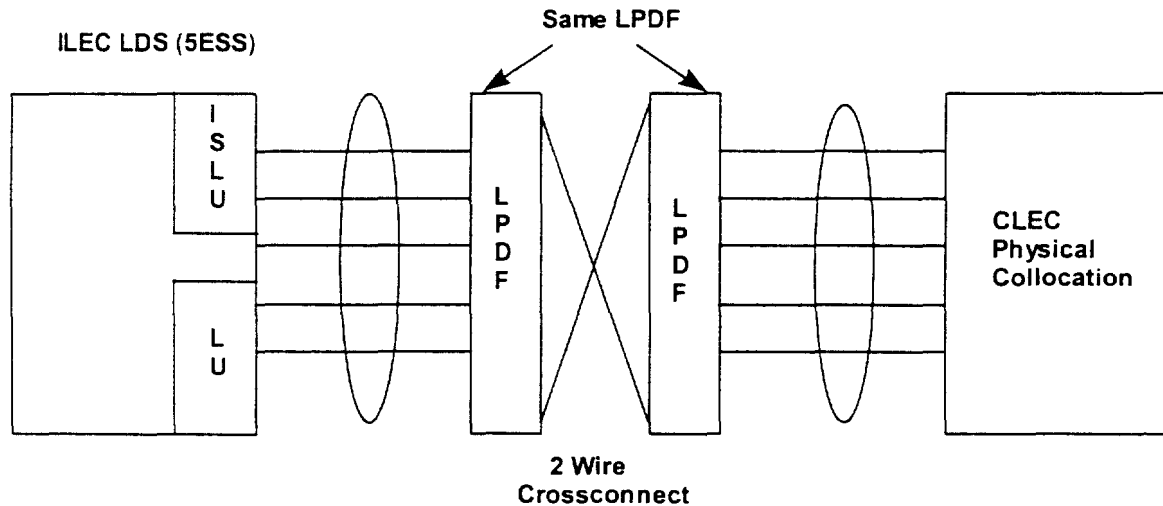
Fallout:

**NRCM TECHNICAL ASSUMPTIONS BINDER (NTAB)**  
**WORKING DRAFT IN PROGRESS**

It is assumed that fallout of the order will occur 2% of the time to the RCMAC. The activities include the following:

- Pull and analyze the order
- Clear the jeopardy

***2 Wire (POTS or ISDN/BRI) Unbundled Line Port***





### **Element Type 37: Line Port; DS0 – Analog LU or Digital ISLU/IDT – (Disconnect)**

**Definition:** This 2 Wire unbundled line port provides a 2 wire twisted pair (TWP) path between the ILEC Local Digital Switch (LDS) and the CLEC Collocation space and will support POTS and ISDN/BRI services.

**Objective:** Remove a DS0 Line Port from the ILEC LDS switch (5ESS) to the CLEC

**Environment:**

**Key Drivers of Cost:**

**Variable Input**

- Labor Rate
- Variable Overhead
- Fallout
- Copper Loop Percentage
- Average Trip Time
- Number of Work Activities per Trip
- CO Staffed Ratio

**Work Value Input**

- Manual Work Step Times

**High Level Process Overview:**

**Transmission Type:** Analog ☒ Digital ☒.

**Unbundled Port:** Yes ☒ No ☐.

**Examples of service used on this element type:**

POTS  
ISDN/BRI  
1MB, 1MR; 1FB, 1FR

**Time Estimates:** Activity times are based on estimates by a panel of Subject Matter Experts.

**Sample Output:** See Attachment A

**Detailed Work Activities:** See Attachment B

**Detailed Work Activity Descriptions:**

Technical Description:

This 2-wire unbundled line port supports 2-wired twisted pair (TWP) as its transmission media. It models a POTS line unit (LU) or ISDN/BRI line unit (ISLU). The investments for the ISLU, LU, and associated PICBs and PIDBs are recovered in the recurring costs modeled in SCIS. Recent Change line translations, and a 2-wire cross-connect at the LDPF (Cosmic-Type) - in order to connect to the CFA and physical collocation - are also modeled (see exhibit below).

Disconnect:

- Use of WFA
- Pull and analyze the order
- Trip time to non-staffed CO
- 4-Work Activities per trip
- Disconnect 2-wire cross-connect at LDPF (Cosmic-Type)

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**WORKING DRAFT IN PROGRESS**

- Close the order

**Fallout:**

It is assumed that fallout of the order will occur 2% of the time to the RCMAC. The activities include the following:

- Pull and analyze the order (2.5 minutes)
- Clear the jeopardy (15 minutes)